

S/044/62/000/009/050/069
A060/A000

AUTHOR: Mikeladze, Sh. Ye.

TITLE: On the formulae for numerical differentiation

PERIODICAL: Referativnyy zhurnal, Matematika, no. 9, 1962, 32, abstract 9V160
("Soobshch. AN GruzSSR", 1961, 27, 657 - 662)

TEXT: New formulae for numerical differentiation are considered, finding application in problems of approximate numerical solution of differential equations and obtained by the differentiation of interpolation formulae published earlier by the author. Formulae are introduced which express the derivatives of even and odd orders in terms of the values of the function at the grid points, as well as general formulae of numerical differentiation with symmetric grid points. It is demonstrated that the remainder terms of the obtained formulae may be simplified. JC

I. F. Shelikhova

[Abstracter's note: Complete translation]

Card 1/1

MIKELADZE, Sh.Ye.

Application of Bernstein polynomials to problems of construction
engineering. Trudy Mat. inst. AN Gruz. SSR 28:107-121 '62.

(Bernstein polynomials) (Mechanics, Applied) (MIRA 16:8)

MIKELADZE, Sh.Ye.

A formula and the algorithm for the numerical solution of ordinary
linear differential equations of the second order. Izv. Mat. inst.
AN Gruz. SSR 29:283-305 1964. (MIRA 17:12)

L 54019-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AR5012987

UK/0044/65/000/003/B133/B133

SOURCE: Ref. zh. Matematika, Abs. 3B654

AUTHOR: Mikeladze, Sh. Ya.

TITLE: A formula and its applications to the numerical solution of ordinary, linear, second-order differential equations 16

CITED SOURCE: Tr. Tbilissk. matem. in-ta, v. 29, 1964, 283-305.

TOPIC TAGS: differential equation, linear differential equation, ordinary differential equation, second order differential equation, finite difference, boundary problem, successive approximation

TRANSLATION: The problem of numerical solution of the basic boundary problems for the equation

$$y'' - py = g \quad (p > 0).$$

(1)

is discussed. Assuming that the coefficients p and g of this equation are continuous functions simultaneously with its four derivatives over the (a, b) segment, the author, on the basis of the interpolation formula

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$$y(x-h) - 2y(x) + y(x+h) = \frac{h^2}{12} [y''(x-h) + 10y''(x) + y''(x+h)] - \frac{h^4}{240} y^{(4)}(\xi) \quad (2)$$

after elimination from it of all second derivatives by means of (1), obtains a system of finite difference equations which approximate the starting equation over a lattice with the spacing h satisfying the boundary condition

$$y(a) = A, \quad y(b) = B, \quad (3)$$

with an error $O(h^4)$. After establishing a property of a certain set of numbers (§2), he proves, on the basis of this property, the unique solvability of the previously obtained system of finite difference equations and establishes, for the solution in question, the convergence of the Seidel method of successive approximations (§3). Furthermore, the author finds the two-sided estimate at each node of the lattice of the error of the approximate solution over the segment $[a, b]$ and also the upper limit of the error of the solution over the entire segment $[a, b]$ (§4); he also discusses the numerical solution using formula (2) of Equation (1) for other boundary conditions (§5). Finally, the author derives finite difference formulas for the evaluation of numerical values of the function

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ACCESSION NR: AR5012987

which satisfies Equation (1) with the given boundary conditions at all points of the segment (a, b) with the exception of a finite number of points at which the function, together with several of its derivatives, has first order discontinuities and jumps equal to certain numbers specified in advance. The presentation is illustrated by numerical examples. Bibliography with 13 references. P. Bondarenko.

SUB CODE: MA

ENCL: 00

Card 3/3

MIKELADZE, Shalva Yefimovich; MANZHAVIDZE, G.F., red.

[Solution of numerical equations] Reshenie chislennyykh uravnenii. Tbilisi, Metsniereba, 1966. 270 p.
(NIRA 18:6)

MIKELADZE, T.K.

History of the oldest inhabitants (Scythians) of the southeastern part of the Black Sea region. Soob. AN Gruz. SSR 19 no.5:633-639 (MIRA 11:6)
N '57.

1. Institut istorii im. akademika I.A. Dzhavakhishvili AN GruzSSR, Tbilisi. Predstavleno chlenom-korrespondentom AN G.S. Chitaya.
(Scythians)

MIKELADZE, U.Sh.

Elastic-plastic equilibrium of anisotropic shells. Soob. AN Gruz.
SSR 20 no.1:13-20 Ja '58. (MIRA 11:6)

1. Tbilisskiy matematicheskiy institut im. A.M. Razmadze AN Gruz SSR.
Predstavleno akademikom N.I. Muskhelishvili.
(Elastic plates and shells)

GEDEVANI, D.M.; KHUNDALZE, G.R.; MIKELADZE, T.D.

Method of controlled respiration in the determination of total
gas exchange in anesthesia. Trudy TSIU 59:82-100 '63.
(MIRA 17:9)

1. Kafedra anesteziologii Tbilisskogo gosudarstvennogo instituta
dlya usovershenstvovaniya vrachey (zav. prof. G.R. Khundadze) i
kafedra fiziologii pedagogicheskogo fakul'teta Tbilisskogo
gosudarstvennogo meditsinskogo instituta (zav. chlen-korrespondent
AN GruzSSR prof. I.M. Gedevari).

IVANOVA, S.A.; MIKELADZE, Z.A.

Effect of X rays on the regeneration of tubular bones (os tibia)
in rats. Nauch. dokl. vys. shkoly; biol. nauki no.2:120-126 '61.
(MIRA 14:5)

1. Rekomendovana kafedroy gistologii Moskovskogo gosudarstvennogo
universiteta im. M.V.Lomonosova.

(X RAYS--PHYSIOLOGICAL EFFECT)
(BONES--DEGENERATION AND REGENERATION)

MIKELADZE, Z.N.

System of direct conclusion formulas in Aristotle's logic. Soob.
AN Gruz. SSR 20 no. 4:385-390 Ap '59. (MIRA 11:7)

1. Institut filosofii AN GruzSSR, Tbilisi. Predstavleno akademikom
A.T. Bochorishvili.

(Logic)

MIKELADZE, Z.N.

Axiomatic study of the schemes of direct conclusion theses.
Sobh. AN Gruz.SSR 20 no.5:513-516 My '58. (MIRA 11:10)

1. AN GruzSSR, Institut filosofii, Tbilisi. Predstavleno akademikom
A.T.Bocherishvili.
(Syllogism)

CHAVCHANIDZE, V.V.; BUKREYEV, I.N.; MIKELADZE, Z.N.; KUMISHVILI, V.A.

A new method for adding and subtracting binary digits by
high-speed digital computers. Trudy Inst.fiz.AN Gruz.SSR
8:313-321 '62. (MIRA 16:2)
(Electronic digital computers)

MIKELIC, A.

"The operation of hydraulic equipment in the M.7 pulling tank."

p. 771 (Vojno-Tehnicki Glasnik) Vol. 5, no. 10, Oct. 1957
Belgrade, Yugoslavia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 1,
April 1958

LENTSNER, A.A.; TOOM, M.A.; MIKEL'SAAR, M.F.

Methodology of isolating lactobacilli from feces. Zhur. mikrobiol.,
epid. i immun. 41 no.9:146-147 S '64. (MIRA 18:4)

1. Tartuskiy gosudarstvennyy universitet.

MIKEL'SAAR, N. P.: Master Biol Sci (diss) -- "Flounder in the eastern portion of the Baltic Sea". Tartu, 1956. 16 pp (Acad Sci Estonian SSR, Dept of Biol and Med Sci), 150 copies (KL, No 2, 1957, 112)

The situation and the results of the research on the history of the Republic of Estonia.

History of the Republic of Estonia, no. 1, 1955.

History of the Republic of Estonia, no. 1, 1955.

Encl.

MIKELSAAR, N.

Applying the equalized scale method in studying the groupings of flounder within the species. p. 286

HYDROBIOLOGISETUURIMUSED. GIDROBIOLOGICHESKIE ISSLEDUVANIJA.
Tartu, Hungary. No. 1, 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 11
November 1959.

Uncl.

MIKELSAAR, N. F. (USSR)

"Limnologische Untersuchungen in Estland."

report submitted for the 14th Intl. Limnological Congress, Vienna, 20 Aug - 8 Sept 1959.

MIKELSAAR, R.N. (Tartu)

Connection of visceral mycoses and agranulocytosis. Arkh. pat.
27 no. 12:38-41 '65. (MIRA 18:12)

1. Proektura Tartuskoy gorodskoy klinicheskoy bol'nitsy (glavnyy
vrach R.I. Lepner). Submitted July 28, 1964.

Michael S. G. H.

Summary of the Proceedings of the 1958 Conference on the Physics of the Liquid State, held at the University of California, San Diego, July 1958. Edited by L. P. Pridmore. 1958. 100 pp. 10s. 6d.

The majority of the papers of the 1958 conference reported on the results of experiments in the field of liquid helium, and the results of theoretical calculations. The papers are presented in the order in which they were presented at the conference. The papers are divided into three sections: (1) Helium, (2) Other liquids, and (3) General topics. The papers are listed in the following order: (1) Helium, (2) Other liquids, and (3) General topics.

"On the Problem of the Superfluidity of Helium II," by L. P. Pridmore. *Phys. Rev.* 107, 1551 (1957).

"The Problem of the Superfluidity of Helium II," by L. P. Pridmore. *Phys. Rev.* 107, 1551 (1957).

"On the Superfluidity of Helium II," by L. P. Pridmore. *Phys. Rev.* 107, 1551 (1957).

"The Problem of the Superfluidity of Helium II," by L. P. Pridmore. *Phys. Rev.* 107, 1551 (1957).

"On the Superfluidity of Helium II," by L. P. Pridmore. *Phys. Rev.* 107, 1551 (1957).

"The Problem of the Superfluidity of Helium II," by L. P. Pridmore. *Phys. Rev.* 107, 1551 (1957).

"On the Superfluidity of Helium II," by L. P. Pridmore. *Phys. Rev.* 107, 1551 (1957).

MIKELSON, A.E.

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PROB: 1 BOX REPRODUCTION

Mathematika po magnetnoy gidrodinamike. Mga, 1966.

Voprosy magnetnoy gidrodinamiki i lineinoy plazmy: trudy konferentsii. (Problems in Magnetohydrodynamics and Linear Dynamics: Transactions of a Conference) Mga, Izdatvo AN Latvinskoy SSR, 1969. 343 p. Bristle ally laminated. 1,000 copies printed.

Sponsoring Agency: Akademiya Nauk Latvinskoy SSR. Institut Fiziki.

Editorial Board: P.A. Frank-Kamenetskiy, Doctor of Physics and Mathematics, Professor; A.I. Vol'pert, Doctor of Technical Sciences, Professor; I.M. Kirko, Doctor of Physics and Mathematics; V.Ia. Valdev, Candidate of Physics and Mathematics; V.O. Vitol, Candidate of Physics and Mathematics; Yu.M. Krasin, and V.Ia. Kuvshinov.

Ed.: A. Ryzhakov; Tech. Ed.: A. Ryzhakov

PREFACE: This book is intended for physicists working in the field of magnetohydrodynamics and plasma dynamics. CONTENTS: This volume contains the transactions of a conference held in Riga, June 1966, on problems in applied and theoretical magnetohydrodynamics. The subjects of the conference were: the investigation of the basic trends in theoretical and applied magnetohydrodynamics, establishing contact between the people doing the research in different branches of magnetohydrodynamics, and increasing the participation of theoretical physicists in problems in applied magnetohydrodynamics. More than 150 persons from different parts of the Soviet Union took part in the conference, and 51 papers were read. Similar conferences are to be held regularly in the future; the next such conference is scheduled to be held in Riga in June 1968. In this present collection of the transactions of the conference, most of the papers and comments on papers are presented by the authors themselves in an abridged form. The book is divided into two parts: the first part deals with problems in theoretical magnetohydrodynamics and plasma dynamics, and consists of 33 articles in eight sections (P.A. Frank-Kamenetskiy, magnetohydrodynamics in a magnetic field; V.O. Vitol, problems in the theory of magnetohydrodynamics and the theory of cosmic-ray variations (L.I. Dubovoy), acceleration of charged particles in a magnetic field (A.I. Abrikosov). The second section consists of 33 articles, deals with problems of experimental magnetohydrodynamics, including the application of physical simulation for investigation of electromagnetic processes in liquid metals (I.M. Kirko) and the development of electromagnetic pumps (P.O. Kirilov), at the Institute of Physics of the Academy of Sciences, Latvian SSR. Several articles are devoted to induction pumps, electromagnetic crucibles, electromagnetic stirrers for molten metals, and their application in the metallurgical industry including schematic diagrams of their power-supply systems. References are given at the end of most of the articles.

Kirko, I.M., and P.O. Kirilov. Turbulent Flow of Liquid Metal Under the Influence of a Traveling Magnetic Field	275
Orlovskiy, G.A. Stirring of Molten Metals by a Traveling Magnetic Field	303
Ushakov, A.B. Use of Dispersed Field Pumps for Stirring Liquid Metals in Arc Furnaces	305
Reisig, R.J. Design of an Arc Stator for Inductive Stirring of Metal in Arc Furnaces	315
Drobnitskiy, Ya.I. Schematic Diagram of Power-Supply Systems for Electric Magnetic Fields for Stirring Metal in Electric Arc Furnaces	315
Prizhenko, P.A. Arc Stirrers for Liquid Furnaces	317
Prizhenko, P.A., and B.M. Kuvshinovskiy. Selecting the Optimum Position of the Stator for Stirring in Liquid Steel With the Help of a Traveling Electromagnetic Field	317
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MIKEL'SON, A. E., CAND PHYS-MATH SCI, "LIQUID METALS UNDER
THE ACTION OF ELECTROMAGNETIC SUSPENSION FORCES." RIGA, 1961.
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(~~MV 1-888~~ RSFSR. URAL STATE UNIV IMENI A. M. GOR'KIY). (KL-
DV, 11-61, 209).

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B'02/B'38

26.2331
AUTHORS:

Veze, A. K., Lysienais, O. A., Mikelson, A. E.

TITLE:

Simulation of volumetric electromagnetic forces acting on a conducting body in an electromagnetic field

SOURCE:

Akademiya nauk Latvyskoj SSR. Institut fiziki. Trudy no 12. 1961. 191 - 198

TEXT: A special device (Fig. 1) was constructed in order to investigate the possibilities of simulating volumetric electromagnetic forces acting on a liquid in a pulsed magnetic field. Two chambers were mounted on the bottom of a tank completely filled with liquid metal. The pole pieces of the electromagnet were passed through the bottom of the tank from inside these chambers. The arrows show how the liquid moves when a current passes through the coil. Experiments were made with two different sized prototypes of this device and with Hg, Sn and Na as liquids. The motion of the liquid in the gap was determined in dependence on current strength and frequency. From the conductivity σ , density ρ , and permeability μ , characteristic dimension of the system l , circular frequency ω of the Card (1/3)

23259
S/668/61/000/012, 013, 014
B10 / B13

Simulation of volumetric

supply current, ampere turns nI and gravity constant γ are the same. Dimensionless quantities were defined: $\bar{\omega} = 4\pi\omega\mu\sigma d^2$, $\bar{I} = In\sigma\mu d^2$, $\bar{\lambda} = 4\pi\sigma\mu d\sqrt{\rho d}$, and, as a quantity depending only on parameters of the metal, $\bar{\lambda} = \rho/4\pi\mu\sigma\gamma$. The relative velocity $R_M = 4\pi\sigma\mu d$ is chosen as a characteristic primitive similarity principle. R_M as a function of $\bar{\omega}$ and $\bar{I}$ characterizes the motion of the metal due to electromagnetic forces. In the case of $\bar{I}$ -independent motion R_M can be represented as a function of $\bar{\omega}$ and $\bar{I}$ is kept constant, or of $\bar{I}$ when $\bar{\omega}$ is kept constant. In both cases the values obtained for the three metals fit the same curve; in the last case it is a straight line. In simulating effects occurring in a rotating field moving under the influence of a travelling magnetic field (skin effect) and the asynchronous nature of the electromagnetic forces (skin effect) into account. This is done for the turbulent motion of the metal in a rotating magnetic field. If the induction $B \sim In/d$, $R_M' = 4\pi\sigma\mu d/(v - v_0)$, v_0 is the field velocity in the system at rest. $R_M'/\bar{I}$ is a straight line.

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B102/B138

Simulation of volumetric ...

$R_M = kI^2$; for 50, 100 and 200 cps ($\omega = 0.4, 0.8, 1.6$) the values obtained fit the same line. Due to the asynchronous nature of the forces, if $v_0 \gg v$, a liquid may in some cases be simulated by a solid. The dependence of the criterion $\bar{N} = N\eta/114.3d^3B^2$ on $\bar{\omega}$ was also studied for Hg, and Al and Cu cylinders. (N is the moment of direction) All values again fit one curve. There are 5 figures and 5 Soviet references.

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S/668/61/000/012/004,004
B102/R130

26 233/
AUTHORS: Kravchenko, V. Ya., Mikel'son, A. E.

TITLE: The problem of the free suspension of solid and liquid
spheres in the field of finite solenoids

SOURCE: Akademiya nauk Latvyskoy SSR. Institut fiziki. Trudy.
no. 12. 1961, 179 - 207

TEXT: The forces acting upon a metal sphere placed between solenoids were calculated and measured, and it is shown that the electromagnetic forces acting on a liquid can be simulated by solids. Such systems are used in melting of high-purity metals without a crucible. A-c pulses were supplied to the solenoids in such a way that the fields induced by them were oppositely directed. Interaction between these fields and the current induced in the sphere causes the sphere to hover between the coils. The condition for the free suspension of a sphere of mass m under the action of the electromagnetic force F is given by $F = mg < F_{\max}$. F is determined theoretically for an idealized case of a sphere of conductivity σ in a circular

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The problem of the free ...

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B102/B138

current field of frequency f , with nI ampere turns.

$$F_z = 4\pi^2 \mu (nI)^2 \sum_{l=1}^{\infty} \frac{1}{l+1} (\sin \alpha)^{2l+3} \left(\frac{a}{b}\right)^{2l+1} P_l^1(\cos \alpha) \times$$

$$\times P_{l+1}^1(\cos \alpha) \left[1 - \frac{2l+1}{a\sqrt{\delta}} \operatorname{Re} \frac{\sqrt{-i} I_{l+\frac{1}{2}}(a\sqrt{i\delta})}{I_{l-\frac{1}{2}}(a\sqrt{i\delta})} \right]. \quad (3)$$

is generally obtained, if the skin layer is infinitely thin ($\delta \rightarrow \infty$),

$$F_z \rightarrow 4\pi^2 \mu (nI)^2 \sum_{l=1}^{\infty} \frac{1}{l+1} (\sin \alpha)^{2l+3} \left(\frac{a}{b}\right)^{2l+1} P_l^1(\cos \alpha) P_{l+1}^1(\cos \alpha). \quad (4)$$

and if it is very thick ($\delta \rightarrow 0$),

$$F_z \rightarrow \frac{\pi^2}{2} \mu (nI)^2 \delta^2 a^4 \sum_{l=1}^{\infty} \frac{1}{(l+1) \left(l + \frac{1}{2}\right)^2 \left(l + \frac{3}{2}\right) \left(l + \frac{5}{2}\right)} \times$$

$$\times (\sin \alpha)^{2l+3} \left(\frac{a}{b}\right)^{2l+1} P_l^1(\cos \alpha) P_{l+1}^1(\cos \alpha) \quad (5)$$

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The problem of the free ...

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result. In dimensionless representation

$$\frac{4\pi F}{\mu n^2 J^2} = 16\pi^3 \sum_{l=1}^{\infty} \frac{1}{l+1} \left(\frac{a}{b}\right)^{2l+1} (\sin \alpha)^{2l+1} P_l^1(\cos \alpha) P_{l+1}^1(\cos \alpha) \times \\ \times \left[1 - \frac{2l+1}{a \sqrt{4\pi \omega \mu \sigma}} \operatorname{Re} \frac{V_{l+1/2}^{-1} I_{l+1/2}(a \sqrt{4\pi i \omega \mu \sigma})}{I_{l-1/2}(a \sqrt{4\pi i \omega \mu \sigma})} \right]. \quad (6)$$

is valid and for $\alpha = \text{const}$ the behavior of the sphere in the field is describable by the dimensionless quantities: $\bar{F} = 4\pi F / \mu n^2 J^2$, $\bar{\omega} = 4\pi \omega \mu \sigma d$ and $\bar{a} = a/b$. Denotations: a and b - radii of sphere and current ring, respectively, P_l^1 - adjoint Legendre polynom, $I_{l+1/2}$ - modified Bessel function, $A_l = 1 / [\sqrt{15} I_{l-1/2}(a \sqrt{15})]$, $\delta = 4\pi \omega \mu \sigma$, $\omega = 2\pi f$, r - radius vector from the center of the sphere to any point of the sphere, α - angle between axis through sphere center and current loop and straight line joining sphere center with any point of the loop. The dimensionless quantities can be

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The problem of the free ...

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B102/B138

used for simulation. Measurements were carried out for Cu, Al, Sn and Pt at 50, 100, 200 and 8000 cps. From the numerical results tabulated it can be seen that (6) reaches a maximum for $\alpha = 60^\circ$. The theoretical values for $\bar{F}$ lie somewhat above the measured ones. The $\bar{F}(\bar{\omega})$ values for liquid and solid Na fit one curve and so do these values for Al, Cu, Sn and Pb. The latter curve lies above the first one. There are 4 figures, 2 tables, and 2 references: 1 Soviet and 1 non-Soviet.

ACCESSION NR: AT4042294

S/0000/63/003/000/0171/0178

AUTHOR: Veze, A.K., Mikel'son, A.E.

TITLE: Investigation of the possibility of pumping liquid metals by means of cylindrical pumps without ferromagnetic cores

SOURCE: Soveshchaniye po teoreticheskoy i prikladnoy magnitnoy gidrodinamike. 3d, Riga, 1962. Voprosy* magnitnoy gidrodinamiki (Problems in magnetic hydrodynamics). doklady* soveshchaniya, v. 3. Riga, Izd-vo AN LatSSR, 1963, 171-178

TOPIC TAGS: pump, cylindrical pump, liquid metal pump, coreless pump, ferromagnetic pump core, induction pump, electromagnetic pump

ABSTRACT: The authors point out one substantial defect of induction pumps for the pumping of liquid metals: in a specific segment, the cross section of the metal conduits must be hollow. Hollow channels, however, are more demanding in terms of mechanical and thermal overloads and also require more time and effort to manufacture. The overload problem becomes particularly critical when operating under high temperatures near the point of mechanical and physico-chemical stability of the wall material, especially in connection with the task of the electromagnetic pumping of zinc, aluminum, cast iron

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and certain other chemically active metals. For this reason, the authors studied the feasibility of electromagnetically pumping liquid metals over circular tubing. A series of experiments are described in the article involving a coaxial cylindrical pump with no central core. The authors have shown that despite theoretical considerations which would seem to indicate that the metal in a cylindrical pump would travel in one direction along the walls and in the opposite direction in the center of the tubing, the realization of such pumps is technically feasible, notwithstanding the actual presence of such a motion in the channel. Investigations were carried out on several inductors of different radii, lengths and pole pair numbers. A determination was made of the force acting on a cylindrical metal conductor, located inside the inductor, as a function of the conductor radius, the specific electroconductivity and aggregate state of the conductor, the length of the polar pitch of the inductor and the frequency of the current used to supply the inductor. Test data were processed in dimensionless form. An experiment to measure the pressure developed by the cylindrical pump is described in some detail, and the authors determine the relationship existing between the criterion of relative force and the criterion of relative frequency under different conditions. On the basis of the experimental information obtained, a model of an infinitely long self-terminated cylindrical

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pump was constructed (See Figure 1 of the Enclosure) for the purpose of checking the operation of similar devices under dynamic conditions. Sodium was employed as the liquid metal. The authors note that the first tests of the pump gave positive results and that processing of the results of the pump operation under dynamic conditions will permit the formulation of definitive recommendations with respect to the design and engineering calculation of similar units and the determination of their applicability for industrial use. Orig. art. has: 6 formulas and 8 figures.

ASSOCIATION: none

SUBMITTED: 04Dec64

ENCL: 01

SUB CODE: EM, IE

NO REF SOV: 001

OTHER: 000

Card 3/4

ACCESSION NR: AT4042294

ENCLOSURE: 01

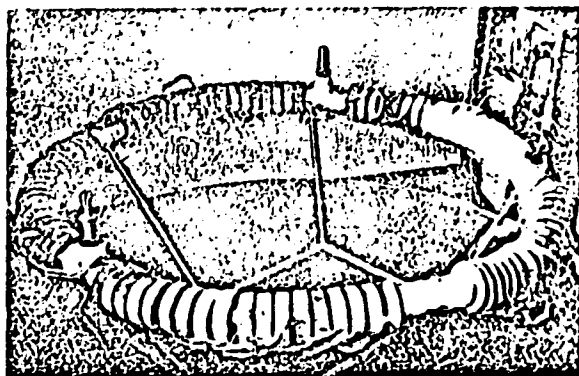


Fig. 8. Overall view of system with cylindrical inductors.

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T-2/EVP(t)/EPA(bb)-2/EVP(b)/EWA(m)-2 Pd-1/Pab-10/Pe-3/Pe-4/Pt-7/Pi-4/Pu-4 LJP(c)
ACCESSION NR: AT5009759 UR/0000/64/004/000/0101/0114 JD/mm/JG/
GS

AUTHOR: Mikel'son, A. E.

TITLE: Modeling of convective processes in liquid metals in the presence of mag-
netic fields

SOURCE: Soveshchaniye po teoreticheskoj i prikladnoj magnitnoj gidrodinamike. 3d.
Riga, 1962. Voprosy magnitnoj gidrodinamiki (Problems in magnetic hydrodynamics);
doklady soveshchaniya, v. 4. Riga, Izd-vo AN LatSSR, 1964, 101-114

TOPIC TAGS: forced heat exchange, liquid metal heat convection, magnetically en-
hanced heat convection, convection model, magnetohydrodynamics, heat exchanger

ABSTRACT: The author 1) shows how to modify the system of heat conduction and hy-
drodynamic equations to make them applicable to the heat exchange processes during
forced convection of conducting liquids in the presence of magnetic and electric
fields; 2) discusses various aspects of these equations; 3) shows the relationship
between Nu and Pe number for various metals during heat exchange in cylindrical
tubes; 4) discusses the circular gap heat exchange with and without agitators; 5)
shows diagrams of a spherical experimental device for liquid metal heat exchange in-
tensification utilizing a variable magnetic field (the heater is at the center of

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the sphere); 6) presents the results of temperature measurements within the device as a function of time; 7) gives curves of air temperature at the entrance and exit of the cooler tube; 8) compares curves of the heater, liquid metal, and cooling surface temperatures for various heater powers and various magnetic field-producing coil currents; and 9) concludes that intensive heat exchange devices should contain magnetic systems creating a flow of liquid metals in the direction of the basic heat current. If the process is in the low Pe number region ($<10^3$), one must take into account the heat exchange dependence on the Nusselt and Bechelor criteria. Orig. art. has: 44 formulas and 10 figures.

ASSOCIATION: None

SUBMITTED: 11Aug64

ENCL: 00

SUB CODE: HE,TD

NO REF SOV: 006

OTHER: 001

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L 58295-65 EPA(s)-2/EMI(m)/EPF(n)-2/EMP(t)/EMP(b) Pt-1/Pu-4 JD/WH/JG

ACCESSION NR: AP5009965 UR/0371/65/000/001/0033/0040

AUTHORS: Kirko, I. (Kirko, I. M.); Mikelsons, A. (Mikel'son, A.E.)

TITLE: Electromagnetic convection of a liquid metal in a spherical cavity

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 1, 1965, 33-40

TOPIC TAGS: magnetohydrodynamics, electromagnetic convection, liquid metal, forced convection, heat exchange intensification

ABSTRACT: This is a continuation of earlier work by one of the authors (Mikel'son, Vopr. magn. gidrodinamiki i dinamiki plazmy [Problems of Magnetohydrodynamics and Plasma Dynamics], Riga, 1961), where it was shown that in a volume of liquid metal molten in an electromagnetic crucible there is very intense mixing due to the unbalance of the electromagnetic forces acting on the suspended metal. In the present investigation, the authors studied the convection induced in liquid metal in a spherical cavity by an alternating magnetic field

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L 58295-65

ACCESSION NR: AP5009965

produced by an inductor enclosing the cavity, and also the intensification of the heat exchange between the liquid metal and the surrounding medium, brought about by this convection. The apparatus is illustrated in Fig. 1 of the Enclosure. The technique used to obtain a general picture of motion of the liquid metal in the spherical cavity is described in some detail. The results show that electromagnetic convection intensifies the heat exchange between the liquid metal and the surrounding medium, and that magnetohydrodynamic methods can be used to intensify heat exchange with a surface of simple configuration, such as a sphere. The electromagnetic convection of the liquid metal in the spherical cavity is found to depend on the electric and geometrical parameters of the system. Original article has: 5 figures and 3 formulas

ASSOCIATION: Institut fiziki AN LatvSSR (Institute of Physics AN LatvSSR)

SUBMITTED: 15Jun64

ENCL: 01

SUB CODE: ME, TD

NR REF SOV: 002

OTHER: 000

Card 2/3

L 58295-65
ACCESSION NR: AP5009965

ENCLOSURE: 01

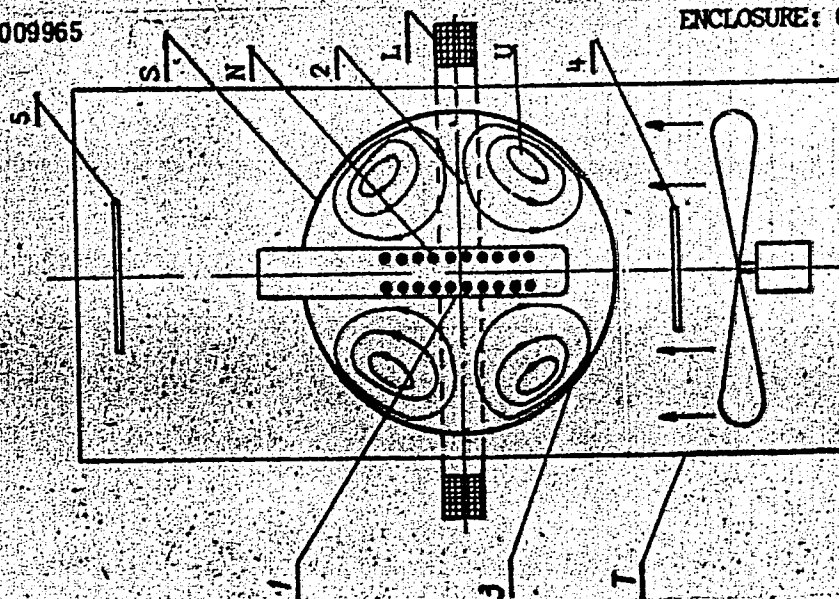


Fig. 1. Sketch of general view of installation: S - vessel with liquid metal, L - inductor, N - heater, T - external tube; 1-5 - thermocouple locations, U - approximate picture of metal motion
Card 3/3 R/L

L 01483-66 EWT(d)/EPA(a)-2/EWT(m)/EWP(w)/EPP(n)-2/EWP(v)/T-2/EWP(t)/EWP(k)/
EWP(b)/EPA(h)/ETC(m) EM/JD/WW/JG

ACCESSION NR: AP5016657

UR/0382/65/000/002/0092/0100

621.689 : 538.4

AUTHOR: Mikel'son, A. E.; Saulite, U. A.; Shkerstena, A. Ya.

TITLE: Investigation of cylindrical coreless pumps

SOURCE: Magnitnaya gidrodinamika, no. 2, 1965, 92-100

TOPIC TAGS: MHD flow, liquid metal pump, electromagnetic pump

ABSTRACT: A cylindrical pump of the coreless type is studied theoretically and experimentally. It consists of finite induction coils and an infinite conducting cylinder concentric to the coils. The inductor coils of negligible thickness produce a traveling magnetic field which is derived from Maxwell's equations (with the help of vector potentials) and depends on the phases of each of the three solenoids forming the inductor. Some computational shortcuts are indicated. The analysis of the results shows that inside of the cylindrical coreless pump, when it operates in the static region, there is relatively intense internal circulation of the metal. The experimental data agrees well with calculations and the method is suitable for design of such pumps. These pumps are applicable in moving of such active metals

Card 1/2

L 01483-66

ACCESSION NR: AP5016657

as ^{Al, Zn} when the use of ferromagnetic core is not possible. Orig. art. has: 22 formulas, 5 figures.

ASSOCIATION: none

SUBMITTED: 03Dec64

ENCL: 00

SUB CODE: ME, EN

NO REF SOV: 002

OTHER: 000

Card 2/2

L 14441-66

ACC NR: AP6002977

(A) SOURCE CODE: UR/0286/65/000/024/0169/0169

INVENTOR: Kovalev, N. G.; Mikel'son, A. E.; Nikolayev, V. N.; Saulite, U. A. 2/5

(3)

ORG: none

TITLE: An electromagnetic conveyer. Class 81, No. 177344

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 169

TOPIC TAGS: conveyer transportation system, electromagnetic propulsion, magnetic field, magnetic circuit

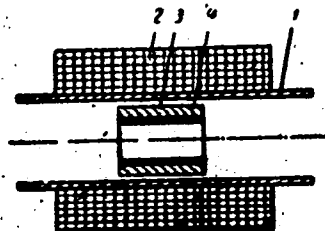
ABSTRACT: This Author's Certificate introduces an electromagnetic conveyer which includes a conduit surrounded by induction coils. Cartridges inside the conduit are moved by a traveling magnetic field set up by the induction coils. A magnetic circuit in the form of a ferromagnetic insert is mounted inside each cartridge to increase the traction force acting on it.

Card 1/2

UDC: 621.867.038

L 14441-66

ACC NR: AP6002977



1 - conduit; 2 - induction coils; 3 - cartridge; 4 - magnetic circuit.

SUB CODE: 13/

SUBM DATE: 01Apr63

PC
Card 2/2

ACC NR: A27005437

SOURCE CODE: UR/0382/66/000/002/0143/0147

MIKEL'SON, A. E., NIKOLAYEV, V. N.

Topic: none

"Investigation of the Magnetic Field and Forces in an Electro-magnetic Crystallizer"

Riga, Magnitnaya Gidrodinamika. (Magnetohydrodynamics), No. 2, 1966, pp 143-147

Field type: magnetic field, tin, magnetic induction.

Abstract: Molten tin in a stainless steel container was subjected to a magnetic field to determine the distribution of the tangential inductance component of the field. The field was produced by a ring-shaped inductor around the container. Inductance was measured with a five-turn coil; pressure, by a two-liquid pressure gauge with stearic acid.

The relative inductions were measured as functions of radial distance and plotted as a family of curves for various frequencies of the induced field. Curves are also plotted for the relative inductance as a function of vertical distance from the center of the molten metal. From these results the pressure distribution is determined inside the molten tin, as well as at the surface of the metal.

Card 1/2

UDC: 538.4

0926 2310

ACC NR: AF7005437

The maximum pressure is obtained at 200 cycles. No separation of the metal from the container walls was observed owing to the low field strength, but a decrease in pressure was noted within the metal from the magnetic field. Results are considered preliminary because of the rigorous mixing motion of the metal. Orig. art. has: 6 figures. [JPRS: 38,764]

SUB CODE: 20 / SUBM DATE: 18Aug65

Card 2/2

10. 01. 2020.

(1) (b) (7) (C), (1) (b) (7) (D).

MIKEL'SON, E.E.

Conditions governing the localization of the endogenous boric mineralization in iron ore metasomatic deposits. Trudy VSEGEI 60: 95-100 '61. (MIRA 15:3)

(boron)

MIKEL'SON, E.E.

Prospecting for endogenous boron deposits by the hydrochemical method.
Inform.sbor. VSEGEI no.56:93-100 '62. (MIRA 17:1)

MIKEL'SON, Ya. Ya.

Mikel'son, Ya. Ya. - "The effect of hydrogen sulfide waters of the "Jemer" health resort of the Latvian SSR on bile generation and the secretory activity of the duodenum, during internal use," Zdravookhraneniye Sob. Latvii, 1948, Symposium 2, p. 118-45 - In Latvian language - Resume in Russian

SO: U-3950, 14 June 1948, (Letizhurnal 'Nykht. Statey, No. 5, 1948).

MIKEL'SON, Ya. Ya.

Mikel'son, Ya. Ya. "The effect of Valdey natural NaCl mineral water on the secretion and acidity of the gastric juices and the ability to evacuate the stomach," Izes'tiya Akad. nauk Latv. SSR, 1949, No. 1, p. 103-12, (In Latvian, reprints in Russian)

SO: U-4934, 19 Oct. 53, (Latvian Zhurnal 'nykh Statey, No. 10, 1949).

MIKEL'SON, Ya. Ya.

Mikel'son, Ya. Ya: "The effect of the natural hydrogen sulfide waters of the Latvian SSR spas, 'Baldone' and 'Kemerī' on the secretion of bile and its discharge into the duodenum," *Izvestiya akad. nauk Latv. SSR*, 1949, No. 5, p. 41-74, (In Latvian, resume in Russian)

SO: U-5240, 17 Dec. 53, (*Letopis 'Zhurnae 'nykh Statey*, No. 25, 1949).

MIKEL'SON, YA. YA.

29253 Vliyaniye Valmiyerskoy natural'noy NaCl mi-neral'noy vody na sekretsuyu
zhelchi i yeye vydeleniye v 12-perstnuyu kishku. Izvestiya Akad. nauk Latv.
SSR, 1949, No 8, s. 41-58. - Na latysh. yaz. - Rezyume na rus. yaz.

SO: Letopsi' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

MIKELSONS, J.

Acron!
(2)

Chem Abo v48

1-26-54

Pharmacology

Influence of iron-bearing natural Sigulda "Lielī" mineral water on blood composition and some cardiovascular functions. J. Mikelsons. Latvijas PSR Zinātņu Akad. Vēstis 1950, No. 1 (Whole No. 30), 41-7 (Russian summary).—A study on 30 patients showed that a peroral intake of water (16.2 mg. Fe bicarbonate per l.), 450 ml. per day over a period of 8-9 days, increased the hemoglobin content and the erythrocyte count. The leucocyte count increased if the patient had a tendency to leucopenia, but decreased slightly in the patients with a normal leucocyte count. These changes occurred mostly in the no. of neutrophils and segmented leucocytes. No substantial changes were observed in the blood pressure, circulation, and sedimentation rate.

A. Dravnieks

1. MIKELSONS, J. Prof. and RUDZI IS, K. Prof. and DANILOVA, T. and MEZULIS, I.
2. USSR (600)
4. Mineral Waters of Latvia
7. Mineral waters and therapeutic muds of the Latvian S. S. R. Latv.PSR Zin.Akad.Vestis no. 12, 1950.
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

— MIKELSONS, J.

Effect of hydrogen sulfide waters of Kamert and Baldone
health resorts on the composition of blood and cardiovascu-
lar system. J. Mikelsons. *Trudy Inst. Eksp. Med.*
Akad. Nauk SSSR, 1953, No. 4, 26-50; *Russk. Med.*
Zhur., Kazim. 1954, No. 27400. M. Hosh

L 63112-65 ENT(1) IJP(c)

ACCESSION NR: AP5019978

UR/0371/65/030/002/0041/0045

AUTHOR: Mikelaons, J. (Mikel'son, Yu. Ya.)

TITLE: Conducting layer in the moving electromagnetic field of a two-sided unsymmetrical conductor

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 2, 1965, 41-45

TOPIC TAGS: inductor, electromagnetic field theory, current density, current distribution

ABSTRACT: An infinitely wide and infinitely long conducting layer of thickness $2b$ with conductivity σ and magnetic permeability $\mu = \mu_0$ is located in the field of a two-sided unsymmetrical inductor (see Fig. 1 of the Enclosure). The inductor consists of a system of parallel linear conductors connected to a source of three-phase current and arranged parallel to the conducting layer at distance d_1 from the middle of the layer above, and at distance d_2 below. A medium with $\mu = \mu_0$ and $\sigma = 0$ is located above the inductor beyond the conducting layer. The force density field was found for the case where the amplitudes of current intensities are I_{01} in the upper inductor and I_{02} in the lower inductor. Also, there is

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L 63119-65

ACCESSION NR: AP5019978

a phase shift between the currents in conductors located on the same vertical. The current frequency in the conductors of the inductor is ω , and the shortest distance between the conductors of the inductor which are at the same phases is 2τ . Using boundary conditions, the author derived an expression for the vector potential inside the conducting layer, then he obtains the magnetic field induction B and current density j inside the conducting layer, and the electrodynamic force F acting on the layer. The formulas derived can be used for the numerical calculation of the magnetic field, current density, and force density in the case of a two-sided unsymmetrical inductor. Orig. art. has: 1 figure and 32 formulas.

ASSOCIATION: Latvyskiy gosudarstvennyy universitet (Latvian State University)

SUBMITTED: 29Sep64

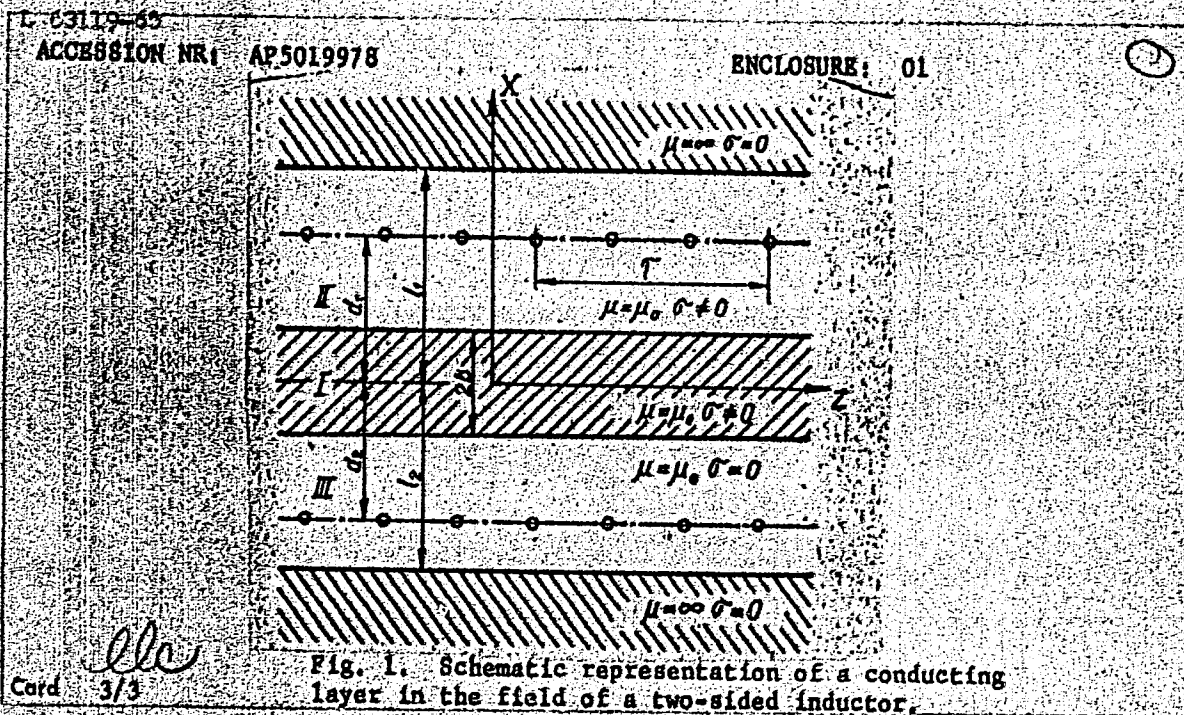
ENCL: 01

SUB CODE: EM

NO REF SOV: 002

OTHER: 000

Card 2/3



Cord 3/3

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R001033920001-2

1. The first part of the document is a list of the names of the individuals who were involved in the project. The names are listed in alphabetical order. The names are: [illegible]

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R001033920001-2"

L 34983-66 EWT(1)/EWP(m)/T-2 ICP(c)
 A77 HR 10016815

SOURCE CODE: UR/0371/65/000/006/0027/0033

AUTHOR: Valdmanis, Ya. Ya. (Valdmanis, J.); Lielpeter, Ya. Ya. (Lielpetra, J.);
Mikel'son, Yu. Ya. (Mikelsons, J.)

ORG: Institute of Physics, AN LatSSR (Institut fiziki AN LatSSR)

THESIS: Effect of higher spatial field harmonics on the electrodynamic forces and
 Joule losses in a conducting strip moving in a traveling magnetic field

Journal: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 6, 1965,
 1-15

TOPIC TAGS: electrodynamics, magnetohydrodynamics, mhd generator, harmonic analysis,
 liquid metal, heat loss, magnetic field intensity

ABSTRACT: In view of the fact that in most papers devoted to the theory of magneto-
 hydrodynamic induction machinery with liquid metal account is taken of only the
 fundamental harmonic of the magnetic field in the working gap, the authors analyze
 the influence of higher harmonics in an idealized model of a magnetohydrodynamic ✓
 induction machine under the assumption that transverse and longitudinal edge effects
 can be neglected, and that the liquid metal moves as a rigid body. The ferromagnetic
 surfaces are assumed smooth, so that only higher harmonics due to the distribution
 of the winding conductors are taken into account. Under these assumptions, expres-
 sions are obtained for the force density and the Poynting vector of a conducting
 strip placed in the traveling magnetic field of a two-sided symmetrical inductor.

Card 1/2

L 34983-66

ACC NR: AP6016815

The calculations show that the dependence of the higher spatial harmonics on the various parameters of the system is quite complicated, and a detailed analysis of the effects is necessary. Although for certain configurations the Joule losses and the electrodynamic force may not be strongly affected by the spatial harmonics, in most cases these harmonics can exert a strong influence and result in appreciable changes. The effect of harmonics is stronger when the induction magnetohydrodynamic machine operates like a generator than when it operates in the pump mode. Orig. art. has: 5 figures and 36 formulas.

SUB CODE: 20, 09/ SUBM DATE: 20Mar65/ ORIG REF: 005

Card 2/2 *ELLG*

L 22514-66 EWT(1) GG

ACC NR: AP6010262

SOURCE CODE: UR/0371/66/000/001/0026/0033

AUTHOR: Mikel'son, Yu. Ya.—Mikelsons, J.; Sermons, G. Ya.—Sermons, G.

ORG: Latvian State University im. P. Stuchka (Latviyskiy gosudarstvennyy universitet)

TITLE: Effect of a toothed inductor on the electromagnetic-field distribtuion in a conducting slab

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 1, 1966, 26-33

TOPIC TAGS: magnetic induction, electromagnetic field, magnetic permeability, vector function, electric conductivity

ABSTRACT: The solution is presented for the problem of a vector potential in a conducting slab. The slab was placed in the gap between two media of infinite magnetic permeability and zero conductivity under the assumption that one of the media had a smooth surface, the other a toothed one. Unlike the works of F. W. Carter (Air-gap induction. El. World and Eng., 1901, 884), R. T. Coe and H. W. Taylor (Philosoph. mag. a. journ. of science, 6, 1928, 100), and E. M. Freeman (Proceedings I. E. E., C, 1962, 580), a constant amplitude of current density in pitches occupied by current loops was given instead of a constant difference of magnetic potential between media surfaces. The current was supposed to be a harmonic function of time with the frequency ω . The expression of the vector potential was used for determining the field in a number of particular cases. The authors thank

Card 1/2

L 22514-66

ACC NR: AP6010262

A. Gaylitis, Senior Scientific Coworker of the Institute of Physics, AN LatSER, for his discussion of the results and valuable comments. Orig. art. has: 1 figure and 30 formulas. [Based on authors' abstract.] [NT]

SUB CODE: 20/ SUBM DATE: 10Apr65/ ORIG REF: 006/ OTH REF: 003/

Card 2/2 BLG

ACC NR: AT7001354

SOURCE CODE: UR/0000/66/000/000/0043/0062

AUTHOR: Mikel'son, Yu. Ya.

ORG: none

TITLE: Higher spatial harmonics of the magnetic field of an induction magnetohydrodynamic machine

SOURCE: AN LatSSR. Institut fiziki. Dvizheniye provodyashchikh tel v magnitnom pole (Movement of conducting bodies in a magnetic field). Riga, Izd-vo Zinatne, 1966, 43-62

TOPIC TAGS: mhd, magnetic field, liquid metal, harmonic analysis

ABSTRACT: The author shows first that harmonics of the supply voltage have a similar effect on magnetohydrodynamic machinery as on ordinary induction machinery, except that the structural differences between the two make a separate approach to the solution of the problem for mhd machinery necessary. The similarities and differences between the two types of machinery are briefly discussed, and the methods that are common to both types of machinery are listed. It is pointed out that theoretical investigations of the influence of higher harmonics on the electromagnetic processes in induction mhd machinery is made difficult by various factors, and possible simplified models facilitating the solution are discussed. The effect of slots and teeth on the surface of the stator on the electromagnetic field in the liquid metal of the mhd machine are analyzed theoretically. References to particular solutions contained in the literature are presented. Orig. art. has: 7 figures and 36 formulas.

SUB CODE: 20, 09/ SUBM DATE: 22Jul66/ ORIG REF: 015/ OTH REF: 003

Card 1/1

MIKELSONE, Ausma; ZUMBERGA, M., red.; BOKMANIS, R., tekhn. red.

[String beans] Krumu pupinas. Riga, Latvijas PSR Zinatnu
Akad. izdevnieciba, 1963. 50 p. (MIRA 16:5)
(Latvia--Beans)

USSR / General and Specialized Zoology. Insects. P
Forest Pests.

Abs Jour : Ref Zhur - Biol., No 17, 1956, No 78346

Author : Mikenaite-Gaidiene, E.

Inst : AS Lithuanian SSR

Title : Pests of Coniferous Seeds in the Lithuanian SSR

Orig Pub : LietTSR Mokslu Akad. darbai, Tr. AS LitSSR, 1957,
83 (LL), 121-135.

Abstract : In 1953-55 eight species of pests of the seeds
of spruce and 2 species of pests of larch seeds
were found. The most serious and commonly distri-
buted in the forests of different types, composi-
tion and ages are the pests of the spruce: cone
leaf-roller, spruce-cone pyralid and spruce-cone
beetle. The pests of spruce mostly damage forests
of green-cone and long-cone type. Cone leaf-roller,
spruce, and fir-cone pyralids live mostly in well-
illuminated forests. -- Author's summary.

Card ~~272~~ ²¹

USSR / Cultivated Plants. Grains.

M-2

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24986

Author : Mikenas, G. S.

Inst : Not given

Title : Nitrogenous Substances in the Grain from Corn
Crosses between Strains and Their Initial Forms

Orig Pub: Uch. zap. Kishinevsk. un-t, 1956, 23, 59-67

Abstract: Research on the composition of the grain of eight corn hybrids harvested in 1954 was made at the department of biology and soil studies of Kishinev University. The content of total nitrogen as well as the extractable, the nitrogen of the stroma, and specifically the proteic nitrogen. Hybrids of the local Moldavanka Oranzhevaya variety yielded grain with the maximum protein nitrogen content. The grain of the different hybrids from crosses

Card 1/2

38

USSR / Cultivated Plants. Grains.

M-2

Abs Jour: Ref Zhur-Biol., No 6, 1953, 24936

Abstract: Between strains were distinguished by the total nitrogen content, protein nitrogen and nitrogen of the alcohol soluble fraction. The grain of the hybrids did not reach the protein nitrogen level of the parental form which had a higher nitrogen content when cultivated in identical circumstances. Individual strains of a single variety were alike in the total and protein nitrogen content in the grains, although when crossed with strains of other varieties appeared as forms with different protein nitrogen content. -- V. S. Smal'kov

Card 2/2

1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 26

Journal of Management Education 26(8) 970-981

ORIG. PUB. : Vol. , No. , Date: / /

[illegible]

CATEGORY :

ABS. JOUR. : RZhBiol., No. 1959, No.

AUTHOR :
 TITLE :
 DATE :

CPTG, PUB. :

ABSTRACT : This work shows that the integral of a function of the form $f(x) = \sum_{n=0}^{\infty} a_n x^n$ over the interval $[0, 1]$ is equal to the sum of the series $\sum_{n=0}^{\infty} \frac{a_n}{n+1}$. This result is proved by using the method of integration by parts. The result is then applied to the evaluation of the integral $\int_0^1 x^x dx$. The integral is shown to be equal to the sum of the series $\sum_{n=0}^{\infty} \frac{(-1)^n}{(n+1)^2}$. This result is then used to evaluate the integral $\int_0^1 x^x dx$ numerically. The value of the integral is found to be approximately 0.68808.

MIKENAS, G.S.; ROLENSKIY, N.V.

Biochemical characteristics of varietal and hybrid corn kernels.
Izv. vys. ucheb. zav.; pishch. tekhn. no.2:22-25 '63.

(MIRA 16:5)

1. Kishinevskiy gosudarstvennyy universitet i Odesskiy
tekhnologicheskii institut imeni Lomonosova.

(Corn (Maize)—Analysis and chemistry)

(Corn (Maize)—Varieties)

S/044/62/000/003/002/092
C111/C222

AUTHOR: Mikenberg, A. M.

TITLE: On the position of a countable set on an F_σ -set

PERIODICAL: Referativnyy zhurnal, Matematika, no. 3, 1962, 10,
abstract 3A67. ("Izv. Krymsk. ped. in-ta", 1961, 25,
291-294)

TEXT: The paper contains a solution to the problem posed by P. S. Novikov on the position of a countable set T on an F_σ -set M . As suggested by P. S. Novikov, the pairs (M, T) are classified as follows: the pair (M, T) belongs to the first type, if with any representation of M as a countable number of closed sets, each of these sets contains not more than one point of T ; if (M, T) is not of the first type, then the pair belongs to the second type. As found by the author, the necessary and sufficient condition for a pair (M, T) to be of the first type is that $M - T$ is a set of the type F_σ . It follows that the pairs (M, T) of the second type are thereby characterized that $M - T$ is a G_δ -set which is different from all F_σ -sets. The following two theorems are given as corollaries of this criterion: 1) for (M, T) to belong to the first type, it is sufficient that T is a G_δ -set; 2) for (M, T) , where

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S/G44/62/000/003/002/092
C111/C222

On the position of a countable ...

M and T lie in a compact set P, to belong to the first type, it is sufficient that T does not contain any sub-sets that are dense in it. These results refer to sets M, T situated in an arbitrary metric space R. It is also found that, for the pair (M, T) to belong to the second type, the following two conditions are sufficient; a) M is a set of the second category relative to R; b) the intersection of T with an arbitrary open set in R is countable. Finally, it is proven for linear sets M and T that, if M contains an uncountable set of limit points of T, then the pair (M, T) belongs to the second type.

[Abstracter's note: Complete translation.]

Card 2/2

MIKENBERG, A.M.

Complete systems of nondecreasing general recursive functions.
Dokl. AN SSSR 194 no. 3:517-519. 1964.

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im.
V.I.Lenina. Predstavleno akademikom P.S.Novikovym.

GOL'DIN, M.I.; MIKENICHEVA, Z.N.

Virological analysis of mountain plantations of potatoes in the
Alma-Ata region. Trudy Inst. mikrobiol. i virus. AN Kazakh. SSR
3:169-172 '59. (MIRA 13:2)
(ALMA-ATA REGION--POTATOES--DISEASES AND PESTS)
(VIRUS DISEASES OF PLANTS)

MIKERIN, A.I.; MYASNIKOV, N.I.

Electronic automatic regulators on turbocompressors. Prom. energ.
15 no.12:12-13 D '60. (MIRA 13:12)
(Automatic control) (Compressors)

MIKERIN, B.I., inzh.

New organization of the operations of technical inspection in a plant. Bezop.truda v prom. 6 no.3:25-26 Mr '62. (MIRA 15:3)

1. Novo-Ufimskiy neftepererabatyvayushchiy zavod.
(UFA--Petroleum refineries--Safety regulations)

BUCHACHER, Yo.A.; KUDINOV, A.M.; NEYASLOV, A.V.; MIKERIN, B.I.;
MALIYEVSKIY, A.S.

Modernizing the driving unit of a contactor for sulfuric-acid
alkylation. Nefteper. i neftekhim. no.12:36-41 '63. (MIRA 17:4)

1. Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke
nefti i Novo-Ufimskiy neftepererabatyvayushchiy zavod.

BUCHACHER, Ye.A.; KUDINOV, A.M.; NEYAGLOV, A.V.; MIKERIN, B.I.;
MALIYEVSKIY, A.S.

Mixing unit for a sulfuric-acid alkylation contactor with
electric drive. Trudy BashNII NP no.7:56-62 '64.
(MIRA 17:9)

SHAGALOV, A.F.; MIKERIN, B.I.; POKHITUN, L.Ye.

Causes of explosions in the crankcases of 9CK gas-engine compressors. Neftoper. i neftekhim. no.4:39-42 '65.

(MIRA 78:5)

14(5)

SOV/92-58-8-21/36

AUTHOR: Mikerin, B.P. Senior Geologist

TITLE: Unbreakable Graduate Centrifuge
menzarka tsentrifugi)

(Neb'yushchaya ya

PERIODICAL: Neftyanik, 1958, Nr 8, p 24 (USSR)

ABSTRACT: The author states that ascertaining the percentage of water, emulsion and impurities contained in crude oil is an important job of an oilfield laboratory. It is done by using a centrifuge. The glass graduate of this apparatus very often bursts and has to be replaced by a new one which is not always available. Therefore the oilfield geologist V.K. Velichko developed and built an unbreakable graduate made of plexiglass. This graduate was introduced and successfully used in the No. 5 oilfield of the Khadyzhneft' Administration. The author explains how this type of graduate is built, and states that it can be recommended for use in all oilfield laboratories and for production to all factories making glass graduates.

ASSOCIATION: NPU Khadyzhneft' (The Khadyzhneft' Petroleum Production Administration)

Card 1/1

MIKHEIN, B.P.; ZORIN, N.I.

Reservoir pressure restoration in the Kutais field. Neft.khoz.
36 no.2:63-65 Y '58. (MIRA 12:4)
(Kutais region--Secondary recovery of oil)

MIKERIN, B.P.

Device for recording labor productivity of crews employed in underground and major repair of wells. Neftianik 5 no.1:19-21 Ja '60.
(MIRA 13:11)

1. Starshiy geolog promysla No.5 neftepromyslovogo upravleniya Khadyshenneft'.

(Recording instruments)
(Petroleum industry--Labor productivity)

MIKERIN, B.P.

Stopping the flowing of a well. Neftianik 5 no.5: 16
My '60. (MIRA 13:6)

1. Starehiy geolog promysla No.5 neftepromyslovogo uprav-
leniya Khadyzhenneft'.
(Kutais region (Caucasus, Northern)--Oil fields--Production methods)

MIKERIN, Boris Prokop'yevich; TERZI, V.P.; LATUKHINA, Ye.I., ved. red.;
FEDOTOVA, I.G., tekhn. red.

[Injecting liquefied hydrocarbon gases into oil layers;
practice of oil workers of the Krasnodar Economic Region]
Nagnetanie szhizhemnykh uglevodorodnykh gazov v neftianye
plasty; opyt neftianikov Krasnodarskogo ekonomicheskogo
raiona. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-
toplivnoi lit-ry, 1961. 61 p. (MIRA 15:2)
(Krasnodar Territory--Oil fields--Production methods)

MIKERIN, B.P.

Rehabilitation of inactive well by the method "..."
drilling. Nefteprom. delo no. 120-1213 (MIRA 1981)

1. Neftepromyeloverye upravleniye. Khimicheskii.

MIKERIN, B.P.

Results of the twentieth anniversary of work in the maintenance
of reservoir pressure on the fields of the Khadyzhensk Oil Field
Administration. Neft. khz. 1975-51 My '65.

(MIRA 18:6)

MIKERIN, P., starshiy instruktor.

Trade-union organizations exchange experiences. V pom.profektivu 14 no.
16:34 Ag '53. (MLRA 6:7)

1. Otdel organizatsionno-massovoy raboty Bashkirskogo soveta profsoyuzov.
(Trade-unions)

MIKERIN, Y. I.

Action of nitrous oxide on diethyl maleate. S. V. Vasil'ev and B. I. Mikerin (St. V. Lomonosov Fine Chem. Technol. Inst., Moscow). *Sovetsk. State. Otkryet. Khim. Akad. Nauk S.S.S.R.* 1; 305-10 (1963).—Passage of N_2O vapors at 0° 8 hrs. into 36 g. di-Et maleate in Et_2O , kept overnight at 0° , N oxides blown out with dry CO_2 , and evapn. gave 48.8 g. brown oil. $\text{C}_{10}\text{H}_{16}\text{O}_4\text{N}_2$. The product on standing in a desiccator decomp. with evolution of N oxides and formation of a colorless solid (1.1 g.) which is free of N and which was identified as tartaric acid. The residual yellow oil also decompd. on prolonged standing; hydrolysis of this oil either with H_2O or with H_2SO_4 gave a mixt. of products. Reduction of the oil with Sn-HCl gave 2.3 g. colorless $\text{C}_{10}\text{H}_{16}\text{O}_4\text{N}_2$, which did not melt at 320° , and which was identified provisionally as a *aminohydroxy succinic acid*; reduction of this with H1-red P in sealed tube at $130-5^\circ$ gave *aminosuccinic acid*, decomp. $250-7^\circ$, whose *Bo deris.*, m. $179.5-80^\circ$. Besides this product, the reduction yielded 1.8 g. $\text{C}_{10}\text{H}_{16}\text{O}_4\text{N}_2$, fusol. in EtOH , m. above 310° , yields HCl salt, m. $280-91.5^\circ$ (decomp.); this material was identified as *diaminosuccinic acid*. Therefore the initial product was a mixt. of *diaminosuccinic acid di-Et ester*, $\text{EtO}_2\text{CCH(ONO)CH(NO}_2\text{)CO}_2\text{Et}$, and $\text{EtO}_2\text{CCH(ONO)CH(ONO)CO}_2\text{Et}$. When the reaction was run in Et_2O with N_2O (with adequate cooling) there were obtained similar results and the reaction mixt. yielded: tartaric acid and a yellow unstable oil composed primarily of the above pseudonitrosite and nitrite esters of hydroxy succinic acid deriva. Heating the product with H_2O yielded HNO_2 . In all cases at 0° or 17° the maleate was isomerized to fumarate in the course of the reaction; thus the isomerization took place during addn. of the oxide to the double bond. O. M. Kozlovskii

- Chair of Organic Chem.

MS. JF

PERSHIN, G.N.; MILOVANOV, S.N.; MIKHERINA, A.L.

Diocide, a new preparation for surgical disinfection of hands.
Farm. i toks. 18 no.1:31-36 Ja-F '55.

(MIRA 9:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy
institut imeni S.Ordzhonikidze.

(ANTISEPTICS,

diocide in surg. scrub)

GOROVOY, B.Ya.; PERSHIN, G.N.; MILOVANOV, S.N.; MIKHERINA, A.L.

Bactericidal varnishes and enamels. Med.prom. 11 no.9:18-25 S '57.
(MIRA 10:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut meditsinskogo
instrumentariya i oborudovaniya i Vsesoyuznyy nauchno-issledovatel'-
skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(VARNISH AND VARNISHING) (BACTERICIDES)

PERSHIN, G.N.; SUVOROV, N.N.; OVCHINNIKOVA, Zh.D.; MILOVANOV, S.N.;
MILERINA, A.L.

Synthesis and bacteriostatic activity of some quaternary β -haloido-
phenoxyethyl ammonium salts [with summary in English]. *Farm.* 1 toks.
20 no.4:48-54 J1-Ag '57. (MIRA 10:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy
institut.

(AMMONIUM COMPOUNDS,

quaternary β -haloidophenoxyethyl ammonium salts, prep.
of & bacteriostatic eff. (Rus))

Microfilm, 16

7
454j

Synthesis and fungistatic activity of some derivatives of
 2,4-dichlorophenol. N. N. Sukhorov, O. N. Pashina, E. D.
 Ovchinnikova, S. N. Kabanova, and A. L. Vlasova.
 Zh. Obshch. Khim. 41: 1920-1921 (1967).
 1. 2,4-dichlorophenol (I) with 10% excess PCl_5 in pyridine 1 hr.
 on a steam bath, quenching in dil. HCl , and extg. with Et_2O
 gave the following $\text{RCO}_2\text{C}_6\text{H}_3$ (R and m.p. shown): Me, 161.5-62°;
 Et, 79-80°; Pr, 76-6°; Bu, 87°; Me_2C , 105.5-106°;
 is-Bu , 82-83°; Am, 87-74°; $\text{n-C}_6\text{H}_{13}$, m. 47-72°;
 $\text{n-C}_8\text{H}_{17}$, 46.7-50°; $\text{n-C}_{10}\text{H}_{21}$, 57.5-77°; $\text{n-C}_{12}\text{H}_{25}$,
 81.5°; Ph, 103.5-9.5°; PhCH_2 , 108-9.3°. Heating 0.15 g.
 NaOH, 8.5 ml. H_2O , 1 g. I, and 0.42 g. $\text{ClCH}_2\text{CH}(\text{OH})\text{CH}_2\text{OH}$
 1 hr. at 100° gave $\text{C}_6\text{H}_3\text{COCH}_2\text{CH}(\text{OH})\text{CH}_2\text{OH}$, m.
 109.5-10.5° (EtOH). Keeping 2.66 g. I, 0.65 g. KOH, 1
 ml. ClCH_2Ac and 10 ml. EtOH 4 hrs., then refluxing 1 hr.,
 and quenching in aq. Na_2CO_3 gave 0.78 g. $\text{C}_6\text{H}_3\text{COCH}_2\text{CH}_2\text{Ac}$, m.
 106.5-6.7°. *thiosemicarbazone*, m. 135-6.5°. Similarly
 $\text{p-MeOC}_6\text{H}_4\text{COCH}_2\text{Br}$ gave $\text{p-MeOC}_6\text{H}_4\text{COCH}_2\text{CH}_2\text{OC}_6\text{H}_5$, m.
 143.5-9.5°. Refluxing I and KOH with $\text{EtCHBrCO}_2\text{Me}$ in
 EtOH 2 hrs. gave a moderate yield of $\text{C}_6\text{H}_3\text{COCH}_2\text{CH}(\text{OC}_6\text{H}_5)\text{OC}_6\text{H}_5$, m.
 69.5-70° (MeOH). Refluxing 2 g. I with 0.22 ml. $(\text{CH}_3)_3\text{SiH}$
 and 0.42 g. KOH in EtOH 4 hrs. gave $(\text{CH}_3)_3\text{SiOC}_6\text{H}_3$, m.
 223-3.3° (EtOAc). The activity of the products against
 human and avian tuberculosis bacilli, acid-resistant sapro-
 phytes, microsporium, and other pathogenic fungi are tabu-
 lated from expts. *in vitro*. All the products are less active
 than I. The activity of the esters declines with increasing
 size of the acid portion of the ester. G. M. Kosolapoff

PERSHIN, G.N., laureat Stalinskoy premii, prof.; MILOVANOV, S.N.; MIKERINA, A.L.

Diocide is a new preparation for treating the surgeon's hands. Khim. i med. no.10:7-15 '59. (MIRA 13:2)

1. Iz Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo insituta im. S. Ordzhonikidze.
(SURGERY, ASEPTIC AND ANTISEPTIC) (DIOCIDE)